

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A filter laminate, comprising in any arrangement a plurality of discrete layers of material, wherein each layer is adjacent at least one other layer, said plurality of discrete layers comprising:

a first membrane layer comprising a first membrane, wherein said first membrane is a microporous or ultraporous asymmetric membrane;

at least a second membrane layer comprising a second porous membrane; and

~~a bond~~ bonding layer ~~between each of said adjacent layers, wherein said bond is formed after each of said layers is formed~~ bonding layer is a hot melt adhesive heat-bonded to said first membrane layer and to said second membrane layer.

2. (Canceled)

3. (Currently amended) The filter laminate of Claim 2 1, wherein said second membrane comprises an asymmetric membrane.

4. (Currently amended) The filter laminate of Claim 1, wherein said first membrane comprises a highly asymmetric membrane.

5. (Currently amended) The filter laminate of Claim 2 1, said first membrane having a first surface and a second surface, each of said surfaces comprising pores, wherein said pores of said second surface have an average diameter at least about 5 times greater than an average diameter of said pores of said first surface.

6. (Original) The filter laminate of Claim 5, said first membrane having a first and a second surface, each of said surfaces comprising pores, wherein said pores of said second surface have an average diameter at least about 10 times greater than an average diameter of said pores of said first surface.

7. (Original) The filter laminate of Claim 5, said first membrane further comprising a support structure between said first surface and said second surface, wherein said support structure comprises a reticular network of flow channels connecting said pores of said first surface with said pores of said second surface.

8. (Original) The filter laminate of Claim 7, wherein said flow channels substantially increase gradually in diameter between said first surface and said second surface.

9. (Original) The filter laminate of Claim 7, said first membrane comprising an isotropic region and an asymmetric region, such that said support region comprises a thickness between said first surface and said second surface, wherein said thickness comprises said isotropic region between said first surface and a point within said support region, and an asymmetric region between said point and said second surface, wherein said isotropic region comprises flow channels that are substantially constant in diameter from said first surface to said point between said isotropic region and said asymmetric region, and wherein said asymmetric region comprises flow channels that gradually increase or decrease in diameter from said point to said second surface.

10. (Original) The filter laminate of Claim 5, wherein said average diameter of said pores of said first surface is from about 0.01 μm to about 10.0 μm .

11. (Original) The filter laminate of Claim 5, wherein said average diameter of said pores of said first surface is less than about 0.01 μm .

12. (Canceled)

13. (Currently amended) The filter laminate of Claim 12 ~~1~~, further comprising a third membrane layer.

14. (Currently amended) The filter laminate of Claim 13, further comprising a second bonding layer between the third membrane layer and either the first membrane layer or the second membrane layer, wherein said bonding layer is of a hot melt adhesive heat-bonded to said third membrane layer.

15. (Currently amended) The filter laminate of Claim 1, wherein said first membrane comprises a polymer selected from the group consisting of polyvinylidene fluoride, polyarylsulfone, polyethersulfone, ~~polyarylsulfone~~, polyamides, and cellulosic derivatives.

16. (Original) The filter laminate of Claim 1, further comprising a layer comprising a material.

17. (Currently amended) The filter laminate of Claim 16, wherein said material is selected from the group consisting of polyester, polypropylene, polyolefin, polyethylene, nylon, paper, cellulose, glass fiber, and acrylic, ~~and mylar~~.

Appl. No. : 10/603,425
Filed : June 24, 2003

18. (Original) The filter laminate of Claim 16, wherein said material is selected from the group consisting of nonwoven fibrous material, woven fibrous material, web material, sheet material, calendered material, wet laid material, dry laid material, and extruded material.

19. (Currently amended) A filter laminate, comprising in any arrangement:

a first distinct preformed layer of material, said first distinct preformed layer comprising a first membrane layer, said first membrane layer comprising an a microporous or ultraporous asymmetric membrane;

a second distinct preformed layer of material, said second distinct preformed layer comprising a second porous membrane layer; and

a third distinct preformed layer of material, said third distinct preformed layer comprising a third membrane layer;

wherein each layer is adjacent to at least one other layer, and wherein adjacent layers are secured by a bond, and wherein the bond is formed by a hot melt adhesive heat-bonded to said adjacent layers.

20. (Canceled)